

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 1. (Previously Presented) A method for invalidating resource records
2 in a local cache at a client computer system within a network, comprising:
3 receiving a multicast message from a second client querying a device;
4 locating a resource record associated with the device;
5 waiting for a multicast response from the device to the multicast query;
6 and
7 when a predetermined number of multicast messages from the second
8 client querying the device have been received without receiving a multicasted
9 response from the device to the second client, invalidating the resource record
10 associated with the device.

1 2-4. (Canceled).

1 5. (Previously Presented) The method of claim 41, wherein if the
2 response to the issued query is not received in a pre-determined amount of time,
3 the method further comprises:
4 retrieving a parent record of the resource record at the client, wherein the
5 parent record refers to the resource record;
6 issuing a query for the parent record;
7 waiting for a response to the query from the device; and

8 if the response to the query is not received in a pre-determined amount of
9 time, invalidating the parent record, and then repeating the above process by
10 applying it recursively to any records that refer to the now-invalidated parent
11 record.

1 6. (Previously Presented) The method of claim 41, wherein if the
2 response to the issued query is not received in a pre-determined amount of time,
3 the method further comprises:
4 retrieving a parent record of the resource record at the client, wherein the
5 parent record refers to the resource record;
6 issuing a query for the parent record;
7 receiving a response to the query from the device, wherein the response
8 includes information for updating the resource record; and
9 updating the resource record with the information received in the
10 response.

1 7. (Original) The method of claim 6, wherein the method further
2 comprises updating the parent record with the information received in the
3 response.

1 8. (Previously Presented) The method of claim 41, wherein the
2 resource records are retrieved and the queries are issued at a pre-specified time
3 interval.

1 9. (Previously Presented) A computer-readable storage medium
2 storing instructions that when executed by a computer cause the computer to
3 perform a method for invalidating resource records in a local cache at a client
4 computer system within a network, the method comprising:
5 receiving a multicast message from a second client querying a device;

6 locating a resource record associated with the device;
7 waiting for a multicast response to the multicast query; and
8 when a predetermined number of multicast messages from the second
9 client querying the device have been received without receiving a multicasted
10 response from the device to the second client, invalidating the resource record
11 associated with the device.

1 10-12. (Canceled).

1 13. (Previously Presented) The computer-readable storage medium of
2 claim 42, wherein if the response to the issued query is not received in a pre-
3 determined amount of time, the method further comprises:
4 retrieving a parent record of the resource record at the client, wherein the
5 parent record refers to the resource record;
6 issuing a query for the parent record;
7 waiting for a response to the query from the device; and
8 if the response to the query is not received in a pre-determined amount of
9 time, invalidating the parent record, and then repeating the above process by
10 applying it recursively to any records that refer to the now-invalidated parent
11 record.

1 14. (Previously Presented) The computer-readable storage medium of
2 claim 42, wherein if the response to the issued query is not received in a pre-
3 determined amount of time, the method further comprises:
4 retrieving a parent record of the resource record at the client, wherein the
5 parent record refers to the resource record;
6 issuing a query for the parent record;
7 receiving a response to the query from the device, wherein the response
8 includes information for updating the resource record; and

9 updating the resource record with the information received in the
10 response.

1 15. (Original) The computer-readable storage medium of claim 14,
2 wherein the method further comprises updating the parent record with the
3 information received in the response.

1 16. (Previously Presented) The computer-readable storage medium of
2 claim 42, wherein the resource records are retrieved and the queries are issued at
3 a pre-specified time interval.

1 17. (Previously Presented) An apparatus that invalidates resource
2 records in a local cache at a client computer system within a network, comprising:
3
4 an invalidation mechanism configured to:
5 receive a multicast message from a second client querying a
6 device;
7 receive a resource record associated with the device from the
8 retrieval mechanism in response to receiving the multicast message;
9 wait for a multicast response to the multicast query; and
10 when a predetermined number of multicast messages from the
11 second client querying the device have been received without receiving a
12 multicasted response from the device to the second client, invalidate the
13 resource record associated with the device.

1 18-20. (Canceled).

1 21. (Previously Presented) The apparatus of claim 43, wherein if the
2 response to the issued query is not received in a pre-determined amount of time,
3 the invalidation mechanism is additionally configured to:
4 retrieve a parent record of the resource record at the client, wherein the
5 parent record refers to the resource record;
6 issue a query for the parent record;
7 wait for a response to the query from the device; and
8 if the response to the query is not received in a pre-determined amount of
9 time, to invalidate the parent record, and to then repeat the above process by
10 applying it recursively to any records that refer to the now-invalidated parent
11 record.

1 22. (Previously Presented) The apparatus of claim 43, further
2 comprising an updating mechanism, wherein if the response to the issued query is
3 not received in a pre-determined amount of time, the updating mechanism is
4 configured to:
5 retrieve a parent record of the resource record at the client, wherein the
6 parent record refers to the resource record;
7 issue a query for the parent record;
8 receive a response to the query from the device, wherein the response
9 includes information for updating the resource record; and to
10 update the resource record with the information received in the response.

1 23. (Original) The apparatus of claim 22, wherein the updating
2 mechanism is additionally configured to update the parent record with the
3 information received in the response.

1 24. (Previously Presented) The apparatus of claim 43, wherein the
2 invalidation mechanism is configured to retrieve resource records and issue
3 queries at a pre-specified time interval.

1 25–34. (Canceled).

1 35. (Previously Presented) The method of claim 1 wherein invalidating
2 the resource record further comprises invalidating a child resource record of the
3 resource record.

1 36. (Previously Presented) The computer-readable storage medium of
2 claim 9, wherein invalidating the resource record further comprises invalidating a
3 child resource record of the resource record.

1 37. (Previously Presented) The apparatus of claim 17, wherein
2 invalidating the resource record further comprises invalidating a child resource
3 record of the resource record.

1 38-40. (Canceled).

1 41. (Previously Presented) The method of claim 1, wherein the method
2 further comprises:
3 retrieving a resource record from the local cache at the client computer
4 system;
5 issuing one or more queries for the resource record at the client computer
6 system;
7 waiting for a response to the query at the client computer system; and

8 if the response to the query is not received in a pre-determined amount of
9 time and after issuing a predetermined number of queries for the resource record,
10 invalidating the resource record at the client computer system

1 42. (Previously Presented) The computer-readable storage medium of
2 claim 9, wherein the method further comprises:
3 retrieving a resource record from the local cache at the client;
4 issuing one or more queries for the resource record;
5 waiting for a response to the query; and
6 if the response to the query is not received in a pre-determined amount of
7 time and after issuing a predetermined number of queries for the resource record,
8 invalidating the resource record at the client.

1 43. (Previously Presented) The apparatus of claim 17, wherein the
2 apparatus further comprises:
3 a retrieval mechanism at the client configured to retrieve a resource record
4 from the local cache at the client, wherein the invalidation mechanism is
5 configured to:
6 issue one or more queries for the resource record,
7 wait for a response to the query, and
8 if the response to the query is not received in a pre-determined
9 amount of time and after issuing a predetermined number of queries for
10 the resource record, invalidate the resource record at the client.